

Polar Bears and Penguins

Electronegativity and Polarity

Name _____

Date _____ Period _____

Purpose

To understand polarity and bonding between atoms.

Instructions

Read the comic strip “The Bare Essentials of Polarity,” and use it to answer these questions.

1. How does the comic strip define a polar molecule?
2. Define electronegativity as you understand it, after reading the first two pages of the comic strip.
3. What is the artist trying to represent by two polar bears arm wrestling or two penguins arm wrestling?
4. What three types of bonds are represented on the third page of the comic strip? What happens to the bonding electrons in each type of bond?
5. Explain why there are four scoops of ice cream in the illustration of O_2 on the third page.
6. What do the six scoops of ice cream represent in the illustration of N_2 on the fourth page?

7. Describe what you think is happening to the penguin in the CO_2 molecule in the picture on the fourth page.
8. Name three things that the picture of CO_2 on the fourth page illustrates about the molecule.
9. Describe what you think is happening to the penguins in the illustration of H_2O on the fourth page.
10. What does the crossed arrow represent in the comic strip? $\text{+} \longrightarrow$
11. What are two of the definitions of dipole given in the comic strip?
12. **Making Sense** What does electronegativity have to do with polarity?
13. **If You Finish Early** Using polar bears and penguins, create an illustration showing a hydrogen sulfide molecule, H_2S . (*Hint:* You might want to start with a Lewis dot structure.)